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nebula follows a star of mag. 9 by 3′·5, while Professor Stone describes 7761 as following a 10 mag. by 8′. Perhaps a larger telescope is required to settle the question whether 7761 and 7776 are identical with the nebula which I have found between the places assigned for them.

7803. The position is $23^h\ 56^m\ 13^s$, $+12°\ 33'{\cdot}3$.

7821. In the N.G.C. this is described as iF. Probably iR is meant. The nebula is about 40″ long and 15″ broad, the elongation being at 110°.

7828. The position is $0^h\ 1^m\ 20^s$, $-13°\ 58'{\cdot}3$.

7829. This follows 7828 two seconds. Leavenworth suspected it to be a nebula. I can see no nebulosity; it appears to be simply a star of mag. 13.

Second Attempt to Photograph the Leonid Meteor Swarm.
By Isaac Roberts, D.Sc., F.R.S.

The first attempt to photograph the *Leonid* Meteor Swarm was made last year, and was reported upon to the Society at the meeting held in 1897 March (*Mon. Notices*, vol. lvii. pp. 430–431).

This second attempt was made by using the ephemeris computed by Mr. Wright, of the *Nautical Almanac* office, under the directions of Dr. G. Johnstone Stoney and Dr. Downing. It included the interval between 1897 December 24 and 1898 April 8; but unfortunately the only occasions with suitable climatic conditions for taking photographs, within the range of the ephemeris, were on 1897 December 31; 1898 February 27 and March 21.

The photographs were taken simultaneously with the 20-inch reflector and the 5-inch Cooke lens, the reflector plates covering the sky area of four square degrees, and the lens an area of 230 degrees.

The December plates were exposed during 57 minutes, and the February and March plates exposed during two hours each respectively.

The sky during the exposures on each occasion was clear, and the general conditions must be considered favourable for obtaining good photographs. The stars on the plates with two hours exposures in the 20-inch reflector would be to the faintness of about 17th magnitude, and on the 5-inch lens plates about 14th to 15th magnitude.

The sum of this explanatory statement is, that after very careful examination of all the plates, three times over, no indication whatever could be perceived of the presence of the meteor swarm. We must therefore conclude that if the ephemeris is correct within the limits of the photo-fields stated above—if the meteor swarm has followed the computed orbit, in the computed

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time, we must accept the photographic evidence that the meteors are very small—that they are, over the area of 2° × 2°, fainter than 17th magnitude, or over 230° area, fainter than 15th magnitude stars.

I am willing to try again to photograph the swarm during a period extending from December 24 this year to the end of the first week in April next year, provided an ephemeris is computed for the purpose; for I am impressed with the idea that the luminosity, and accurate position of this swarm in its orbit, ought, if possible, to be determined with the necessary accuracy, and the photographic method only can adequately furnish the data.

A Revolver Eyepiece, electrically warmed. By A. F. Lindemann.

Especially in observing double stars and planetary details I had often and rapidly to change the magnifying power of my telescope. The air would allow a power of 100; suddenly it becomes steadier for a few seconds and a power of 200 to 300, or even 420 to 600, can be used with my 6-inch glass. But before 1895 it took me 15 to 30 seconds to change it, and during this time the air often changed unfavourably, and I had to return to 100. Quite apart from having perhaps to focus the changed power a little, to light up and take my eye off the telescope, and spoiling by change of illumination the sensitiveness of the retina for the next 5 to 10 seconds, in winter—or even in a very damp and cool summer night—the new cold eyepiece, when in position, just at the most important moment, would suddenly cover with condensed moisture from the eye, and a wiping process had to be resorted to. Even when the eyepiece was previously warmed, it often cooled down during observation, and gave the same deplorable result. This induced me to construct and make an eyepiece which I have now had over three years in constant use, and which proves to be all that can be desired. The idea of a revolver eyepiece is not a new one, as at least one "vertically" revolving eyepiece exists; but my construction may have some new features, and may be of use to others as it has been to me; and the (I believe) novel idea of warming by electricity should certainly prove a boon to nearly every observer, as it can easily be applied to any telescope.

The revolver eyepiece (figs. 1, 2, 3, 4, and 5) consists of a ring (*a*) of ebonite (which I largely use with advantage), to which is screwed the ebonite carrier (*b*). The ring and carrier is slipped over the tube (A), usually carrying the eyepieces (figs. 1 and 2) up to collar (*c*). By this the position of A in relation to *a b* is fixed. The clamp screw (*e*) holds it tight in any position by pressing a small steel plate (*d*) in the usual way against A. When *e* is released *a b* can be rotated round A. Upon A is very carefully

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